

Teacher Commentary

Using a Warm-Up to Review Content

Question: What is a “warm-up?” How do you use the warm-up strategy in your classroom?

Answer: A warm-up is a question or questions designed to activate thinking about a particular subject. A warm-up acts as a transition from students’ previous classes to science, and from the previous day’s work to the work at hand. A warm-up can be used to:

- Review content from the day before
- Activate prior knowledge about the day’s topic
- Guide students so they can develop a hypothesis for the day’s lab
- Teach specific vocabulary
- Review specific vocabulary

Question: Why do you want students to know scientific vocabulary such as *balanced* force and unbalanced force? Why not let them use their own terminology to describe the scientific concepts?

Answer: Students need to know scientific vocabulary so that they can accurately and precisely describe their thinking on a topic and what they see in lab experiences. They also need to know scientific vocabulary so that they can access and understand higher-level scientific text. Also, I believe science class should prepare students to engage in the scientific discipline beyond school. To gain access to authentic scientific conversations, students need academic language. My classes have a lot of English language learners; these students in particular benefit from direct vocabulary instruction.

Question: What are the various strategies that you use to teach such vocabulary?

Answer: I use many strategies:

- One strategy is to let students predict a word’s meaning using context cues or prefixes and suffixes. After students make their predictions, the class reinforces or challenges these predictions by considering the actual meaning.
- To reinforce vocabulary, I deliberately use the scientific vocabulary myself as I talk to the whole class or with small groups.
- It is important to me to let students practice new words orally, with partners, and as a whole class. Choral response is one technique I use for this.
- Students need to use the vocabulary in their writing as well. Students are expected to include scientific vocabulary in their conclusion paragraphs. Additionally, I give students sentence-stems to guide their use of abstract science terms and phrases like, “I hypothesize that...”